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Patent No. 7,178,233  
Request for Cert. of Correction dated April 23, 2007  
Attorney Docket No. 1217-032351



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent No. : 7,178,233 Confirmation No. 9453  
Inventor : Nakamura et al.  
Issued : February 20, 2007  
Title : Process For Producing A Collapsed Filled Via Hole  
Examiner : Carl J. Arbes  
Customer No. : 28289

REQUEST FOR CERTIFICATE OF CORRECTION OF PATENT  
FOR PTO MISTAKE (37 C.F.R. 1.322(a))

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

ATTENTION: Decision and Certificate of Correction Branch  
Patent Issue Division

Sir:

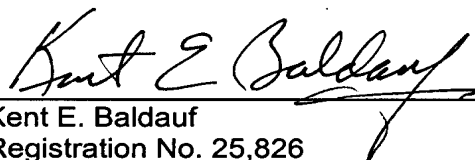
In accordance with 35 U.S.C. §254, we attach hereto Form PTO/SB/44 and a copy of proof of PTO errors and request that a Certificate of Correction be issued in the above-identified patent. The following error appears in the patent as printed:

Column 32, Line 11, Claim 5, "punching the resin sheet in (A) and the" should read -- punching the metal sheet in (B) with --  
(See the Amendment dated August 24, 2007, page 6, Claim 9, Line 8.  
Claim 9 issued as Claim 5.)

Respectfully submitted,

THE WEBB LAW FIRM

By



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Certificate  
of Correction  
APR 30 2007

MAY - 2 2007

**UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION**

Page 1 of 1

PATENT NO. : 7,178,233  
APPLICATION NO. : 10/728,177  
ISSUE DATE : February 20, 2007  
INVENTORS : Nakamura et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 32, Line 11, Claim 5, "punching the resin sheet in (A) and the" should read  
-- punching the metal sheet in (B) with --

MAILING ADDRESS OF SENDER: The Webb Law Firm  
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This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-2450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

*If you need assistance in completing the form, call 1-800-PTO-9199 and select Option 2.*

Application No. 10/728,177  
Paper Dated August 24, 2006  
In Reply to USPTO Correspondence of June 19, 2006  
Attorney Docket No. 1217-032351



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/728,177  
Applicant : Toshiyuki Nakamura et al  
Filed : December 4, 2003  
Title : Process for Producing a Printed Wiring Board-Forming Sheet  
and Multi-Layered Printed Wiring Board  
Art Unit : 3729  
Examiner : Carl J. Arbes  
Confirmation No. : 9453  
Customer No. : 28289

MAIL STOP AMENDMENT  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

**AMENDMENT**

Sir:

In response to the Office Action of June 19, 2006, please amend the above-identified application as follows:

**Amendments to the Specification** begin on page 2 of this paper.

**Amendments to the Claims** are reflected in the listing of claims which begins on page 3 of this paper.

**Remarks** begin on page 8 of this paper.

I hereby certify that this correspondence is being deposited with the United States Postal Services as First Class Mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date below.

Judy Eberle  
(Name of Person Mailing Paper)

Judy Eberle August 24, 2006  
Signature Date

{W0292643.1}

MAY - 2 2007

~~a conductive metal sheet having a thickness the same as or larger than the resin sheet in this order on a die hole provided in a metal mold; and~~

~~punching the resin sheet and the conductive metal sheet with a punch of substantially the same size as the through hole and set over the position corresponding to the hole in such a way that a chip of the conductive metal to be formed by the punch is inserted and remains in the through hole; the collapsed via hole according to claim 2, wherein the insulating resin sheet is made of at least one material selected from the group consisting of polyimide, polyester, polypropylene, polyphenylene sulfide, polyvinylidene chloride, ethylene-vinyl alcohol copolymer, and bismaleimide triazine (BT) resin, and the conductive metal is at least one conductive metal selected from the group consisting of a solder sheet, a solder-plated metal sheet and a copper alloy sheet.~~

5. (Currently Amended) A process for producing a printed wiring board forming sheet a collapsed filled via hole comprising:

5 (A) placing an insulating resin sheet, optionally including a conductive material sheet on at least one surface of the resin sheet, in a die hole provided in a metal mold;

(B) placing a conductive metal sheet having a thickness ~~the same as or~~ larger than the resin sheet in the die hole; and

10 (C) ~~punching the resin sheet in (A) and the metal sheet in (B) with a punch in such a way that that does not reach the resin sheet thereby producing~~ a chip of the metal sheet in (B) to be formed by the punch, the chip of the metal sheet in (B) is pressed into the resin sheet in (A) by the punch, whereby a through hole is formed in the resin sheet in (A) and the chip is inserted and remains in the through hole formed in the resin sheet by the punch to form a filled via hole with a first end and a second end; and

15 (D) collapsing the first end and the second end of the filled via hole to externally spread like an umbrella thereby producing the collapsed filled via hole,

wherein the chip of conductive metal protrudes from both surfaces of the resin sheet by 10 to 500  $\mu\text{m}$ .